

# Rapid on-site evaluation with BIOEVALUATOR(R) during EBUS-TBNA for diagnosing pulmonary and mediastinal diseases

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**AIM:** Rapid on-site evaluation (ROSE) is used widely during endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA). BIOEVALUATOR(R) is a device used for determining whether the tissues obtained by EBUS-TBNA are appropriate for a pathological diagnosis. This study describes our experience with ROSE using BIOEVALUATOR(R) during EBUS-TBNA for diagnosing pulmonary and mediastinal diseases.

**MATERIALS AND METHODS:** We retrospectively evaluated the results of 60 patients who underwent EBUS-TBNA with BIOEVALUATOR(R) between December 2011 and November 2013. For the diagnosis, the tissue areas were appearing white and red through BIOEVALUATOR(R) are considered to be appropriate and inappropriate, respectively. We examined their medical records to obtain information concerning the examination of BIOEVALUATOR(R) results of the patient's materials (white/red), the diagnosis yield, site and size of lymph nodes and number of needle passes.

**RESULTS:** The median longest diameter of 72 lymph nodes (35 #7, 20 #4R, 7 #4L and 10 #11) from 60 patients was 26.7 (range 12.4-50.6) mm and the median number of needle passes was 2 (range 1-5). The definitive diagnosis was made by EBUS-TBNA in 48 of 60 patients, by thoracotomy in one patient. BIOEVALUATOR(R) results were white and lymphocytes were seen in the 9 patients, and red were seen in the rest 2 patients. Finally, the 7 patients were judged as having benign lymphadenopathy because the lymph node size on computed tomography decreased or remained stable after for at least 6 months, and the 2 patients by thoracotomy. The rest 2 patients were judged as insufficient material because the samples contained only red areas, which contained few lymphocytes pathologically.

**CONCLUSIONS:** Checking aspirated samples using BIOEVALUATOR(R) appears useful for determining their adequacy for pathological diagnosis.